

WHAT IS CLAIMED IS:

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1. A method of controlling menu item selection in a portable electronic
device, the portable electronic device including a menu display having a
plurality of menu items and a menu item pointer movable by a user to highlight
5 particular menu items, the method comprising:
sensing relative movement between the portable electronic device and an
imaging surface;
generating a first set of movement data indicating a first relative
movement between the portable electronic device and the imaging surface;
10 moving the menu item pointer based on the first set of movement data to
highlight a first menu item;
generating a second set of movement data indicating a second relative
movement between the portable electronic device and the imaging surface; and
selecting the first menu item based on the second set of movement data.
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2. The method of claim 1, wherein the first set of movement data indicates
movement in a first direction, and the second set of movement data indicates
movement in a second direction, the second direction being substantially
perpendicular to the first direction.
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3. The method of claim 1, and further comprising:
directing light onto the imaging surface, thereby generating reflected
images;
focusing the reflected images onto an array of photo detectors;
25 generating digital representations of the reflected images based on
outputs of the photo detectors; and
correlating at least one version of a first one of the digital representations
with at least one version of a second one of the digital representations.

4. The method of claim 1, wherein the portable electronic device is one of a cellular telephone, personal digital assistant, digital camera, pager, portable music player, and portable game device.

5. A portable electronic device comprising:
a menu display having a plurality of menu items and a menu item pointer movable by a user to highlight particular menu items;
a motion sensor for sensing relative movement between the portable electronic device and an imaging surface, the motion sensor configured to generate a first set of movement data indicating a first relative movement between the portable electronic device and the imaging surface, and configured to generate a second set of movement data indicating a second relative movement between the portable electronic device and the imaging surface; and
a controller configured to move the menu item pointer based on the first set of movement data to highlight a first menu item, the controller configured to select the first menu item based on the second set of movement data.

6. The device of claim 5, wherein the first set of movement data indicates movement in a first direction, and the second set of movement data indicates movement in a second direction, the second direction being substantially perpendicular to the first direction.

7. The device of claim 5, wherein the motion sensor is an optical motion sensor.

8. The device of claim 7, wherein the optical motion sensor further comprises:
a light source for illuminating the imaging surface, thereby generating reflected images;
an array of photo detectors;
a lens for focusing the reflected images onto the array of photo detectors;

a digitizer for generating digital representations of the reflected images
based on outputs of the photo detectors; and

a correlator for correlating at least one version of a first one of the digital
representations with at least one version of a second one of the digital
5 representations.

9. The device of claim 5, wherein the motion sensor is positioned on a back
side of the portable electronic device, and the menu display is positioned on a
front side of the portable electronic device.

10. The device of claim 5, wherein the portable electronic device is one of a
cellular telephone, personal digital assistant, digital camera, pager, portable
music player, and portable game device.

11. A method of identifying the user of a portable electronic device, the
method comprising:

storing movement pattern data representing a first pattern of relative
movement between the portable electronic device and an imaging surface;

sensing relative movement between the portable electronic device and an
imaging surface;

generating a first set of motion data based on the sensed relative
movement, the first set of motion data representing a second pattern of relative
movement between the portable electronic device and an imaging surface;

comparing the first set of motion data to the stored movement pattern
data; and

identifying the user of the portable electronic device based on the
comparison of the first set of motion data to the stored movement pattern data.

12. The method of claim 11, and further comprising:

directing light onto the imaging surface, thereby generating reflected
images;

5 focusing the reflected images onto an array of photo detectors;
generating digital representations of the reflected images based on
outputs of the photo detectors; and

correlating at least one version of a first one of the digital representations
with at least one version of a second one of the digital representations.

13. The method of claim 11, and further comprising:
enabling operation of the portable electronic if the first set of motion data
matches the stored movement pattern data.

14. A portable electronic device comprising:
a memory for storing movement pattern data representing a first pattern
of relative movement between the portable electronic device and an imaging
surface;
a motion sensor for generating a first set of motion data representing a
second pattern of relative movement between the portable electronic device and
an imaging surface; and
a controller for comparing the first set of motion data to the stored
movement pattern data, the controller configured to identify the user of the
portable electronic based on the comparison of the first set of motion data to the
stored movement pattern data.

15. The device of claim 14, wherein the motion sensor is an optical motion
sensor.

16. The device of claim 15, wherein the optical motion sensor further
comprises:
a light source for illuminating the imaging surface, thereby generating
reflected images;

an array of photo detectors;
a lens for focusing the reflected images onto the array of photo detectors;

~~a digitizer for generating digital representations of the reflected images~~
based on outputs of the photo detectors; and

a correlator for correlating at least one version of a first one of the digital
representations with at least one version of a second one of the digital
5 representations.

17. The device of claim 14, wherein the motion sensor is positioned on a
back side of the portable electronic device.

10 18. A portable electronic device comprising:
a memory for storing movement pattern data representing a first pattern
of relative movement between the portable electronic device and an imaging
surface;
a motion detector for generating a first set of motion data representing a
15 second pattern of relative movement between the portable electronic device and
an imaging surface; and
a controller for comparing the first set of motion data to the stored
movement pattern data, the controller configured to enable operation of the
portable electronic device if the first set of motion data matches the stored
20 movement pattern data.

19. The device of claim 18, wherein the motion detector is an optical motion
detector.

25 20. The device of claim 19, wherein the motion detector further comprises:
a light source for illuminating the imaging surface, thereby generating
reflected images;
an array of photo detectors;
a lens for focusing the reflected images onto the array of photo detectors;
30 a digitizer for generating digital representations of the reflected images
based on outputs of the photo detectors; and

~~a correlator for correlating at least one version of a first one of the digital representations with at least one version of a second one of the digital representations.~~

- 5 21. The device of claim 18, wherein the motion detector is positioned on a back side of the portable electronic device.
22. The device of claim 18, wherein the portable electronic device is one of a cellular telephone, personal digital assistant, digital camera, pager, portable
- 10 music player, and portable game device.